CLAIMS

1. A method for synthesis of a routing, the method operating:

a) by obtaining the following parameters:

- the different configurations of service variants and of calculator variants and the percentage occurrence of these configurations, the sum of the proportions of the configurations being considered equal to one,

- the cost characteristics of the components stored and weighted as a function of their respective installation proportions,

- the partial or complete mapping of service variants onto the calculator variants,

b) by identifying valid routings;

c) by evaluating the routing cost of the said valid routings for each configuration; and

d) by determining the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.

2. A method according to claim 1, characterized in that a quality characteristic expressed as breakdowns per million is considered in order to make it possible to compare the respective weights of two candidate architectures for a product plan.

3. A method according to one of claims 1 or 2, characterized in that one of the quality characteristics considered is the weight, in order to make it possible to compare the respective measures of quality of two candidate architectures for a product plan.

4. A method according to one of the preceding claims, characterized in that there is automatically calculated a cost of assembly of the electrical and electronic architecture as a function of a cost of assembly of a strand on a zone, of a cost of assembly of a connector on a zone boundary or on a zone, of a cost of assembly of a calculator on a zone, of a cost of assembly of a sensor or actuator on a zone and of a cost of connection of a connector between zones or in a zone.

5. A method according to one of the preceding claims, characterized in that there is synthesized the optimal routing for all configurations, by repeating the foregoing steps, the criterion for minimization being a cost composed of:

-    the estimated recurrent cost of parts,

-    an estimate of the quality cost in anticipation of the cost of repair per zone, this

cost being increased by a constant cost depending on the zone and its ease of access,

- an estimate of the cost of the weight, taking into account mechanical wear and consumption related to an increase of the weight of the vehicle, and/or
- an estimate of the cost of assembly.

6. A method according to one of the preceding claims, applied to the synthesis of the electrical architecture of a newly created product or to the synthesis of an electrical architecture modified relative to a previous architecture.

7. A manufactured article comprising a computer storage means having a computer program for synthesizing a routing, characterized in that the program comprises a code for execution of the steps of the procedure defined in one of claims 1 to 6.

8. A device for synthesis of a routing, the device comprising:

a) a means for obtaining the following parameters:

- the different configurations of service variants and of calculator variants and the percentage occurrence of these configurations, the sum of the proportions of the configurations being considered equal to one,

- the cost characteristics of the components stored and weighted as a function of their respective installation proportions,

- the partial or complete mapping of service variants onto the calculator variants,

b) a means for identifying valid routings;

c) a means for evaluating the routing cost of the said valid routings for each configuration; and

d) a means for determining the valid routing that minimizes the mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration.